OIPE JC139
JUN 0 3 2005
PATENT & TRADEMARK OFFICE

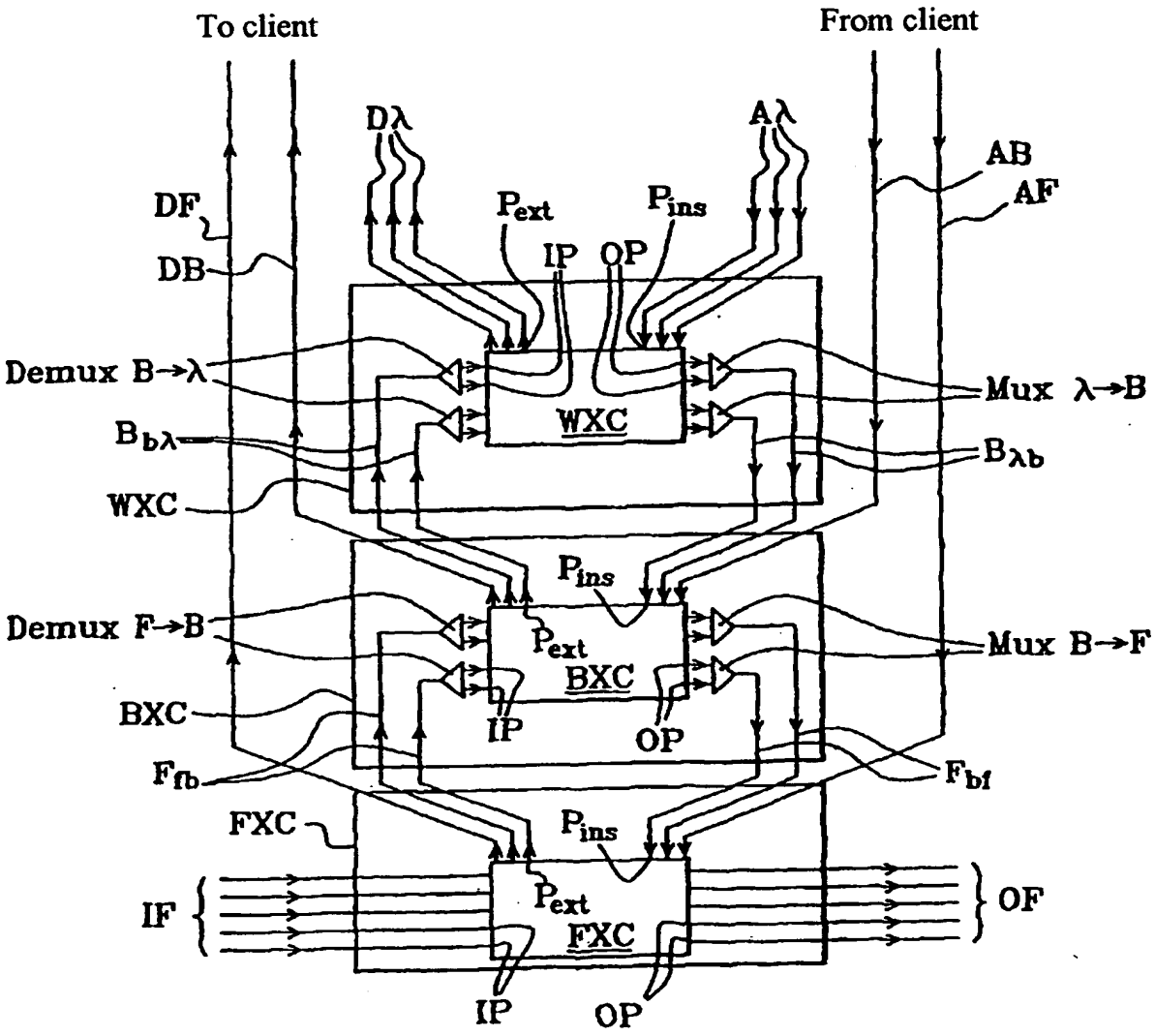

Fig. 1

PRIOR ART

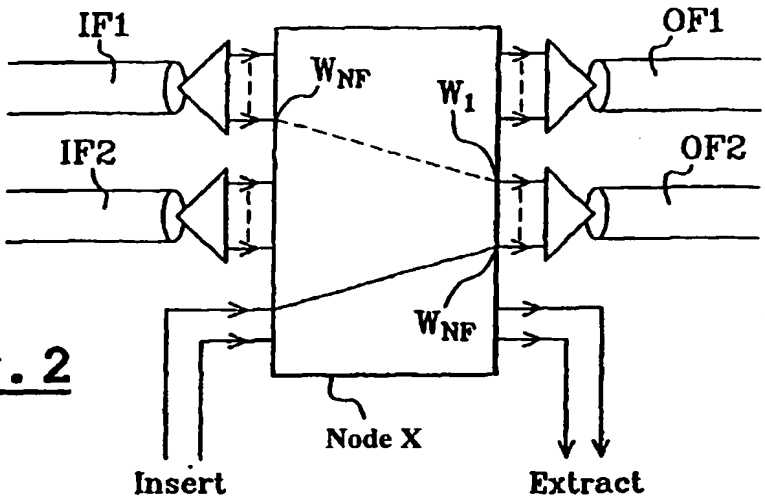

Fig. 2

Wavelength	λ_1	λ_2	λ_3	λ_4	λ_5	λ_6	λ_7	λ_8	λ_9	λ_{10}	λ_{11}	λ_{12}
Band 1 with three wavelengths per band 1	B11			B12			B13			B14		
Band 2 with two bands 1 per band 2	B21						B22					
Fiber	Fiber											

Fig. 3

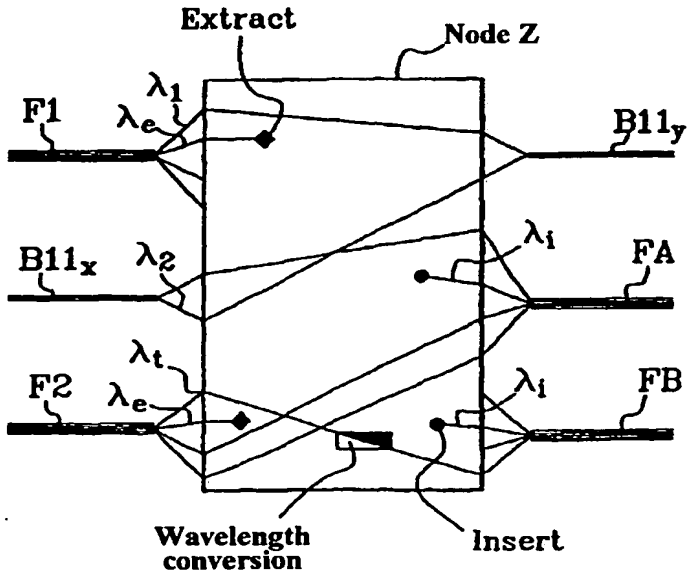

Fig. 4

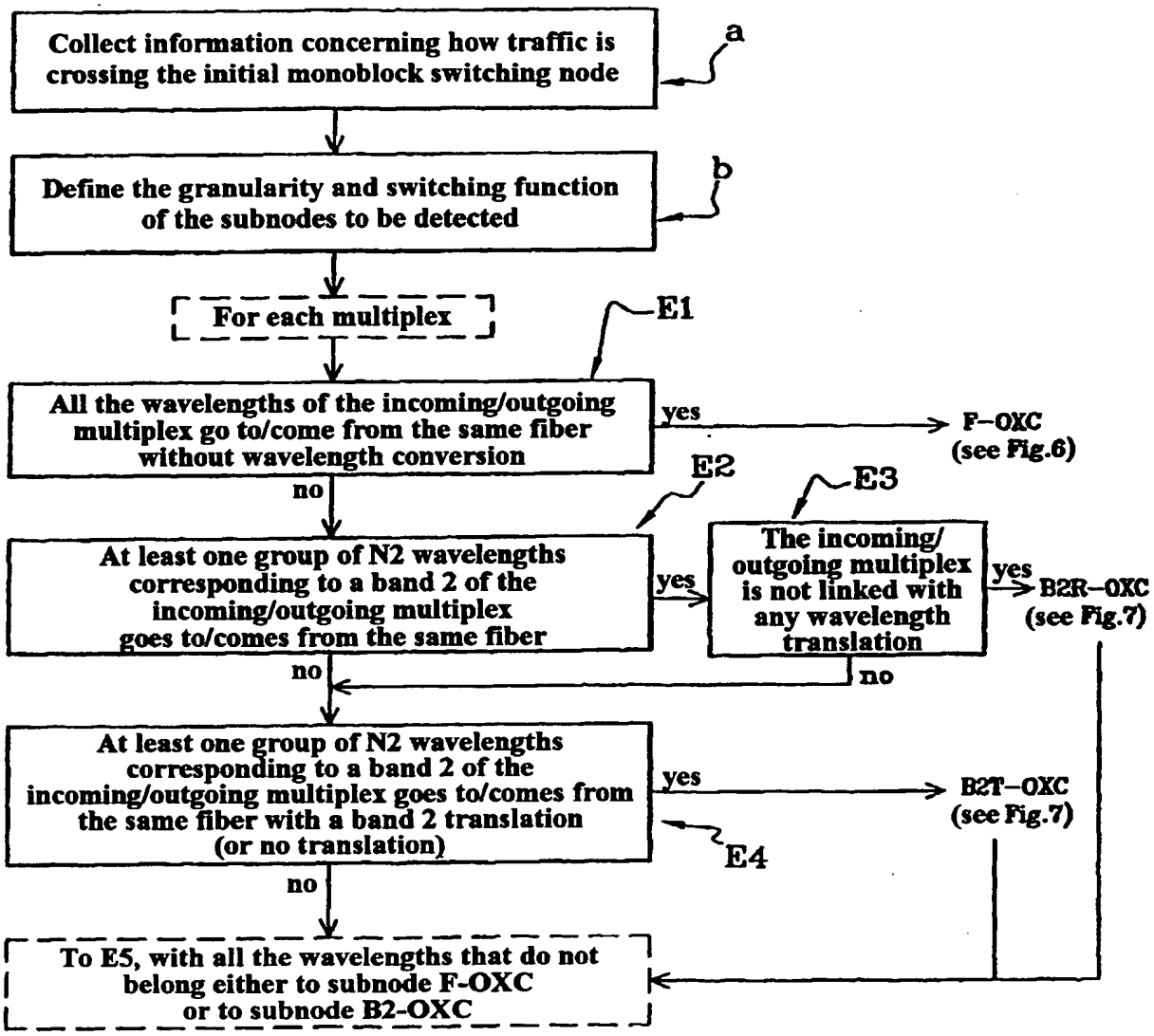
Collect information concerning how traffic is crossing the initial monoblock switching node
a
Define the granularity and switching function of the subnodes to be detected
b
For each multiplex
E1
All the wavelengths of the incoming/outgoing multiplex go to/come from the same fiber without wavelength conversion
yes
F-OXC (see Fig.6)
no
E2
E3
At least one group of N2 wavelengths corresponding to a band 2 of the incoming/outgoing multiplex goes to/comes from the same fiber
yes
The incoming/ outgoing multiplex is not linked with any wavelength translation
yes
B2R-OXC (see Fig.7)
no
no
At least one group of N2 wavelengths corresponding to a band 2 of the incoming/outgoing multiplex goes to/comes from the same fiber with a band 2 translation (or no translation)
yes
B2T-OXC (see Fig.7)
E4
no
To E5, with all the wavelengths that do not belong either to subnode F-OXC or to subnode B2-OXC

Fig. 5A

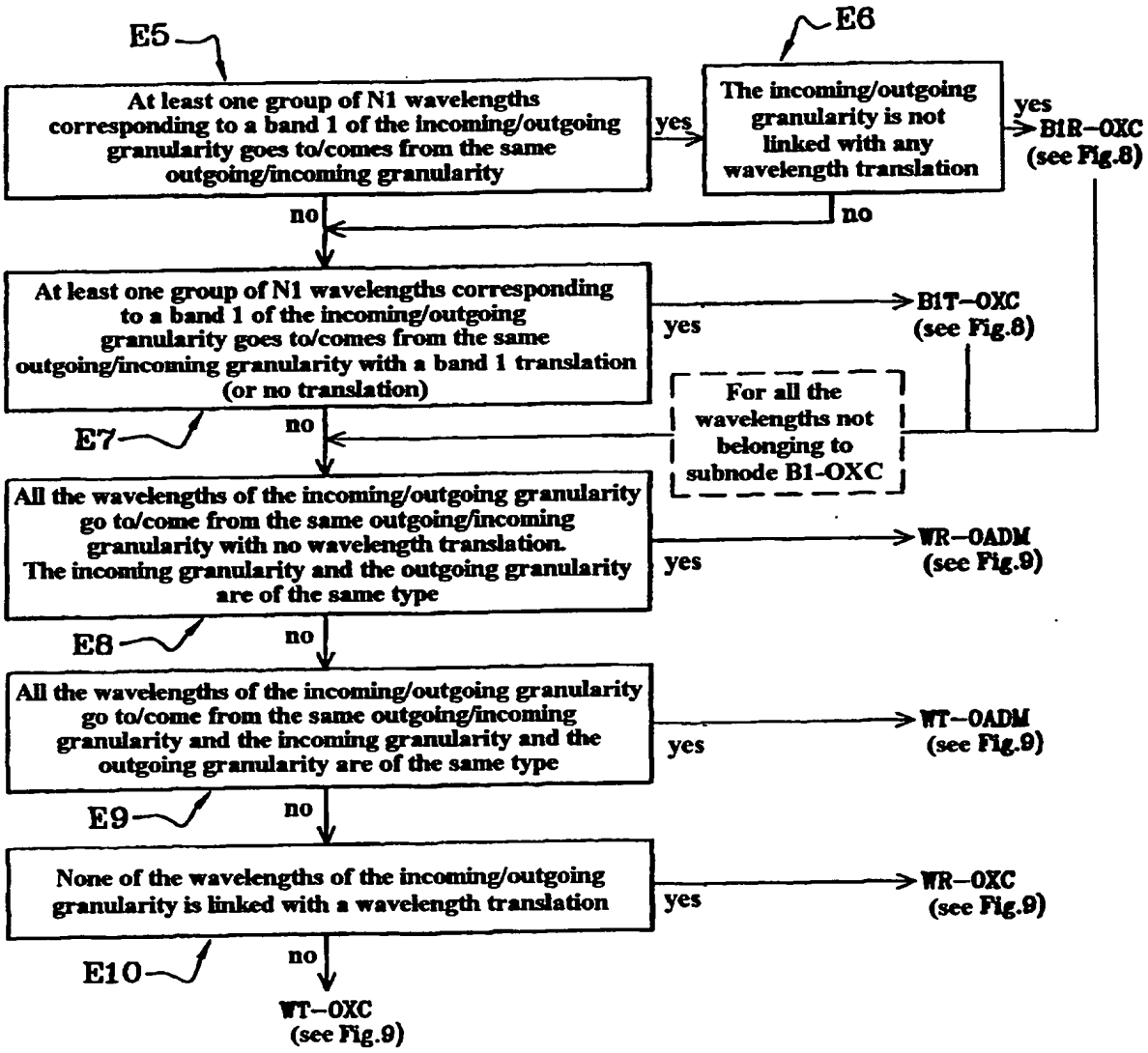
E5
At least one group of N1 wavelengths corresponding to a band 1 of the incoming/outgoing granularity goes to/comes from the same outgoing/incoming granularity
yes
E6
The incoming/outgoing granularity is not linked with any wavelength translation
yes
B1R–OXC
(see Fig.8)
no
no
At least one group of N1 wavelengths corresponding to a band 1 of the incoming/outgoing granularity goes to/comes from the same outgoing/incoming granularity with a band 1 translation (or no translation)
yes
B1T–OXC
(see Fig.8)
For all the wavelengths not belonging to subnode B1-OXC
E7
no
All the wavelengths of the incoming/outgoing granularity go to/come from the same outgoing/incoming granularity with no wavelength translation. The incoming granularity and the outgoing granularity are of the same type
yes
WR–OADM
(see Fig.9)
E8
no
All the wavelengths of the incoming/outgoing granularity go to/come from the same outgoing/incoming granularity and the incoming granularity and the outgoing granularity are of the same type
yes
WT–OADM
(see Fig.9)
E9
no
None of the wavelengths of the incoming/outgoing granularity is linked with a wavelength translation
yes
WR–OXC
(see Fig.9)
E10
no
WT–OXC
(see Fig.9)

Fig. 5B

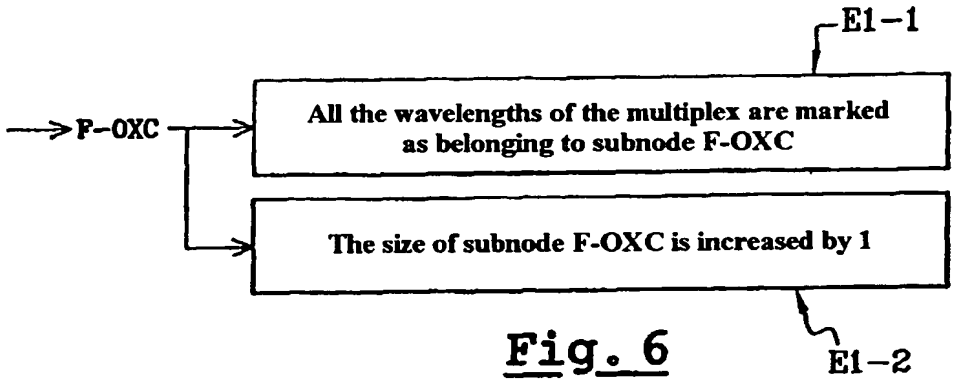
E1-1
F-OXC
All the wavelengths of the multiplex are marked as belonging to subnode F-OXC
The size of subnode F-OXC is increased by 1
E1-2

Fig. 6

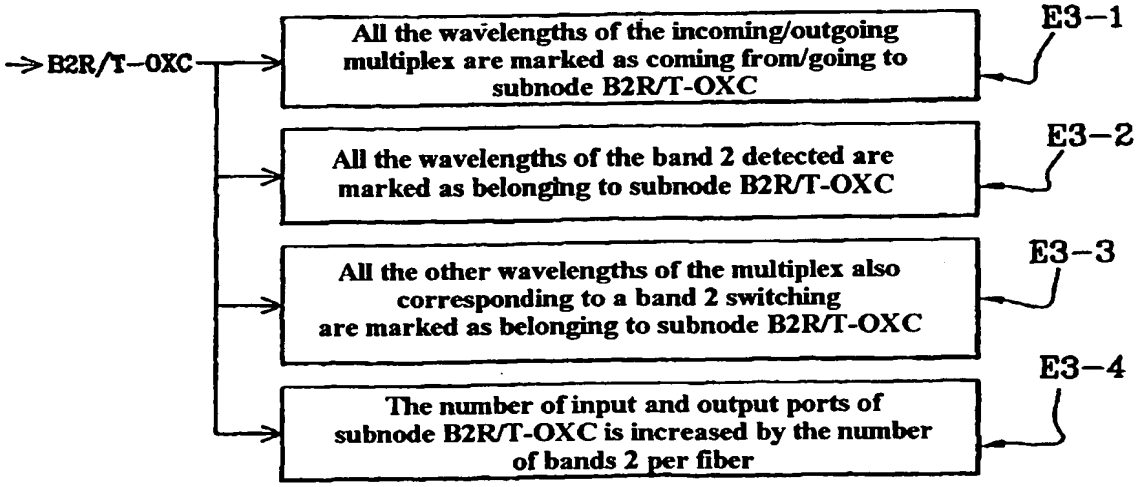
B2R/T-OXC
All the wavelengths of the incoming/outgoing multiplex are marked as coming from/going to subnode B2R/T-OXC
E3-1
All the wavelengths of the band 2 detected are marked as belonging to subnode B2R/T-OXC
E3-2
All the other wavelengths of the multiplex also corresponding to a band 2 switching are marked as belonging to subnode B2R/T-OXC
E3-3
The number of input and output ports of subnode B2R/T-OXC is increased by the number of bands 2 per fiber
E3-4

Fig. 7

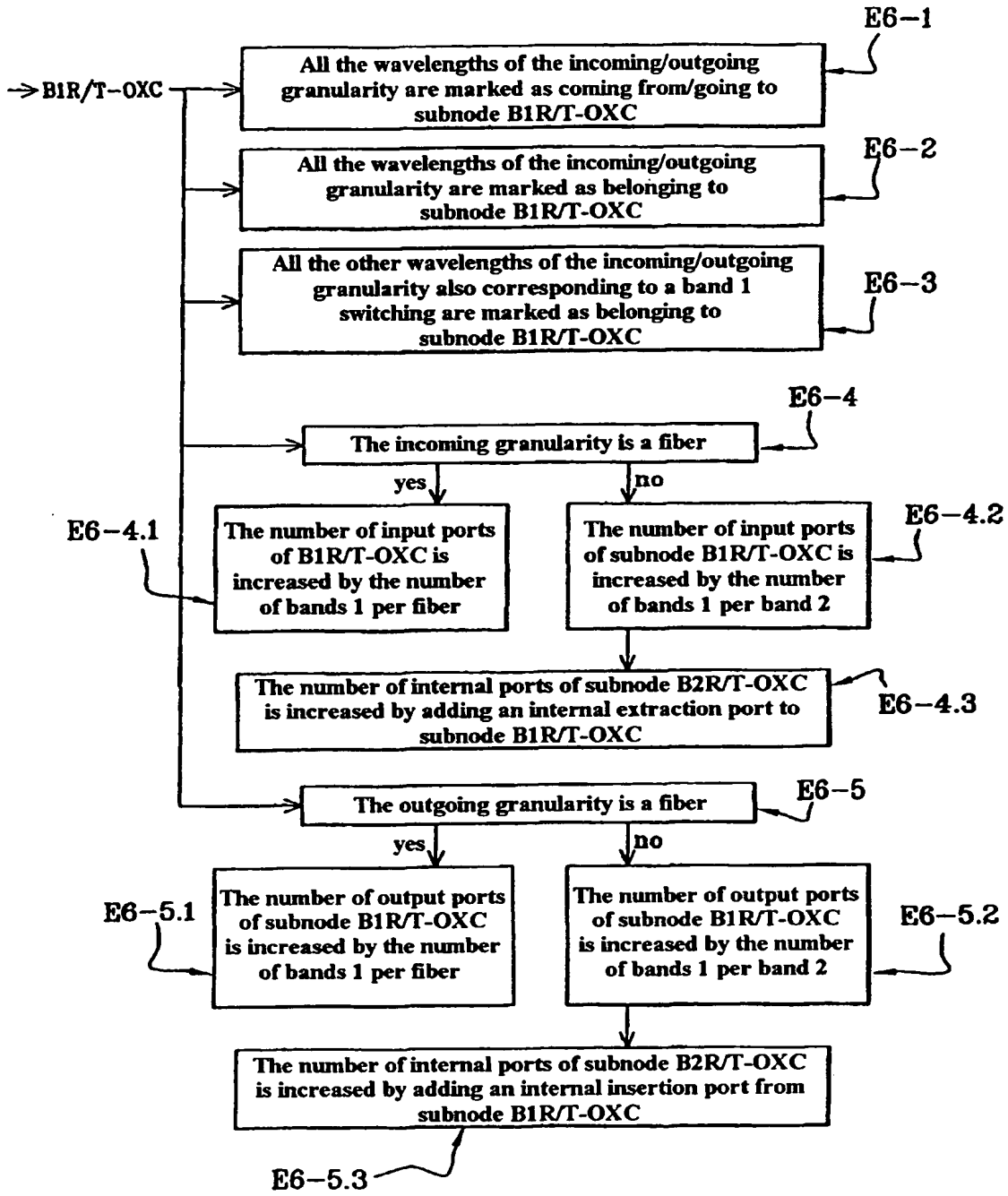
B1R/T-OXC
All the wavelengths of the incoming/outgoing granularity are marked as coming from/going to subnode B1R/T-OXC
E6-1
All the wavelengths of the incoming/outgoing granularity are marked as belonging to subnode B1R/T-OXC
E6-2
All the other wavelengths of the incoming/outgoing granularity also corresponding to a band 1 switching are marked as belonging to subnode B1R/T-OXC
E6-3
The incoming granularity is a fiber
E6-4
yes
no
E6-4.1
The number of input ports of B1R/T-OXC is increased by the number of bands 1 per fiber
The number of input ports of subnode B1R/T-OXC is increased by the number of bands 1 per band 2
E6-4.2
The number of internal ports of subnode B2R/T-OXC is increased by adding an internal extraction port to subnode B1R/T-OXC
E6-4.3
The outgoing granularity is a fiber
E6-5
yes
no
E6-5.1
The number of output ports of subnode B1R/T-OXC is increased by the number of bands 1 per fiber
The number of output ports of subnode B1R/T-OXC is increased by the number of bands 1 per band 2
E6-5.2
The number of internal ports of subnode B2R/T-OXC is increased by adding an internal insertion port from subnode B1R/T-OXC
E6-5.3

Fig. 8

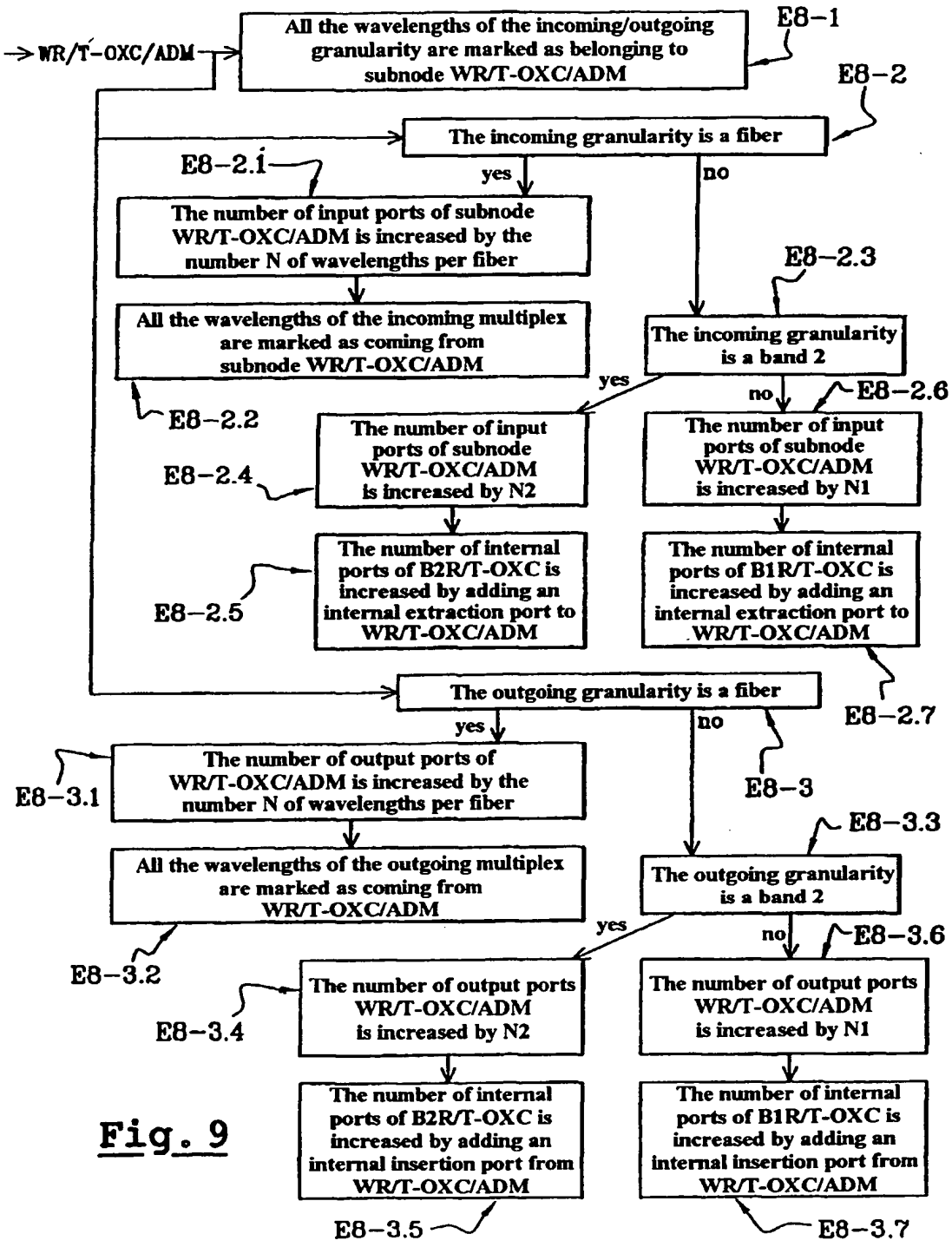
WR/T-OXC/ADM
All the wavelengths of the incoming/outgoing granularity are marked as belonging to subnode WR/T-OXC/ADM
E8-1
E8-2
The incoming granularity is a fiber
yes
no
E8-2.1
The number of input ports of subnode WR/T-OXC/ADM is increased by the number N of wavelengths per fiber
All the wavelengths of the incoming multiplex are marked as coming from subnode WR/T-OXC/ADM
E8-2.2
E8-2.3
The incoming granularity is a band 2
yes
no
E8-2.6
E8-2.4
The number of input ports of subnode WR/T-OXC/ADM is increased by N2
The number of input ports of subnode WR/T-OXC/ADM is increased by N1
E8-2.5
The number of internal ports of B2R/T-OXC is increased by adding an internal extraction port to WR/T-OXC/ADM
The number of internal ports of B1R/T-OXC is increased by adding an internal extraction port to WR/T-OXC/ADM
E8-2.7
The outgoing granularity is a fiber
yes
no
E8-3
E8-3.1
The number of output ports of WR/T-OXC/ADM is increased by the number N of wavelengths per fiber
E8-3.3
All the wavelengths of the outgoing multiplex are marked as coming from WR/T-OXC/ADM
The outgoing granularity is a band 2
yes
no
E8-3.6
E8-3.2
E8-3.4
The number of output ports WR/T-OXC/ADM is increased by N2
The number of output ports WR/T-OXC/ADM is increased by N1
The number of internal ports of B2R/T-OXC is increased by adding an internal insertion port from WR/T-OXC/ADM
The number of internal ports of B1R/T-OXC is increased by adding an internal insertion port from WR/T-OXC/ADM
E8-3.5
E8-3.7

Fig. 9